

PATENT
Atty. Dkt. No. NVDA/P000721

REMARKS

This Amendment is submitted in response to the Final Office Action dated May 15, 2006. Reconsideration and allowance of the claims is requested. In this Final Office Action, claims 1, 3-7, 16, 20, 22-26 and 33-39 are rejected as unpatentable over Krech, Jr. (US 6,057,852). This rejection is respectfully traversed.

Although the Applicant believes that the claims as previously presented are already patentable over the art, each of the independent claims has been further amended to incorporate a dependent claim which further emphasizes the differences between the cited Krech, Jr. patent and the invention. No new issue is raised because claim 1 simply incorporates claim 2; the other independent claims are amended in similar fashion.

The latest Office Action concedes that the limitations in the prior art and the dependent claims are not taught in the reference cited. Contrary to the Examiner's position, the claimed differences are not obvious from the teachings of Krech, Jr. Specifically, the Krech, Jr. patent teaches (see column 11, lines 59-65) that the disclosed design is incapable of supporting or implementing the functionality of generating a triangle fan primitive extension, which is now claimed as one of the primitive extensions supported by the present invention. The Examiner also concedes that generating a cube strip primitive extension is not taught. In addition, it is apparent from a review of table 1 that Krech, Jr. does not teach generating a quadrilateral strip primitive extension. Therefore, none of these primitive extension types now recited in every independent claim is taught in the Krech, Jr. patent. The generation of the vertices for these three types of primitive extensions is described in depth in the present application (see page 28 et seq) to illustrate the power and scope of the invention. Clearly Krech, Jr.'s approach is much more limited, and his concession at column 11 (above) proves this.

In addition to the foregoing, there is another more fundamental distinction between the claimed invention and Krech, Jr. reference. Specifically, Krech, Jr. does not teach generating primitive extensions. Rather Krech, Jr. is limited to a method of enhancing the performance of a geometry accelerator by configuring the controller to recognize constant color conditions across a series of different types of primitives that have already been generated. When a number of graphics primitives are all of the same color, a condition which is frequently encountered, then the same color or alpha data is not copied by the state machine over and over again for each of the primitives, but rather is simply re-applied to the entire sequence of generated primitives. The Krech, Jr. patent recognizes, at column 9, lines 15-20, that an object is decomposed into a large number primitives (preferably triangles) which are then processed by the graphics pipeline. The Krech, Jr. patent presumes that this generation and storage of data identifying the sequence of graphics primitives has already occurred.

Similarly, the Krech, Jr. patent, as disclosed at column 9, lines 21-45, presumes that the generation of all the vertex data for the sequence of primitives has already occurred. The Examiner is referred to column 10, beginning at line 60, where the example given supposes that vertex 0 is red, and vertices 1, 2, 3, 4, 5 and 6 are all green. The Krech, Jr. system then looks at each of the next vertices and checks to see whether that vertex is still assigned a constant color. Referring to column 11, lines 32-40, as long as the color information remains the same, then the information associated with each vertex is not processed. As taught at column 11, lines 40-50, as long as there is a constant color and constant alpha (determined by counting a predetermined number of primitives or vertices) across a minimum number of vertices, then use of the state machine for processing of each vertex or primitive is avoided.

In contrast, the present invention claims that the system is to be provided with the vertices of an originating primitive. Then, rather than being given further vertices of primitive extensions (as occurs in Krech, Jr.), parameters associated

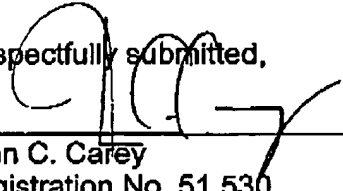
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with the primitive extension are retrieved from storage and the additional vertices for each connected primitive extension are generated. The Examiner is referred to figures 9A, 9B, 10A, 10B, 11A, 11B, 12A and 12B and the corresponding description at page 28-36 of the present application for a description of how these parameters are utilized to generate the primitive extension.

It is clear from this detailed review of Krech, Jr. that there is no generation of primitive extensions based on parameters associated with the primitive extension type. Further, as discussed above, it is also clear that the system disclosed in Krech, Jr. is not capable of supporting the many different types of primitives which can be generated by the claimed invention. For both these reasons, the claimed invention cannot be said to be obvious in view of Krech, Jr.

In view of these clear distinctions, reconsideration and allowance of the claims is respectfully requested.

Respectfully submitted,



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